



The College Challenge

Mac Management at the University of Oxford

JAMF Nation User Conference, Minneapolis
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The College Challenge

Mac Management at the University of Oxford

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University of Oxford

Oxford at a glance



UNIVERSITY OF
OXFORD

- › Oxford was the first University in the English-speaking world.
- › Our aim is to remain at the forefront of centres of learning, teaching and research.



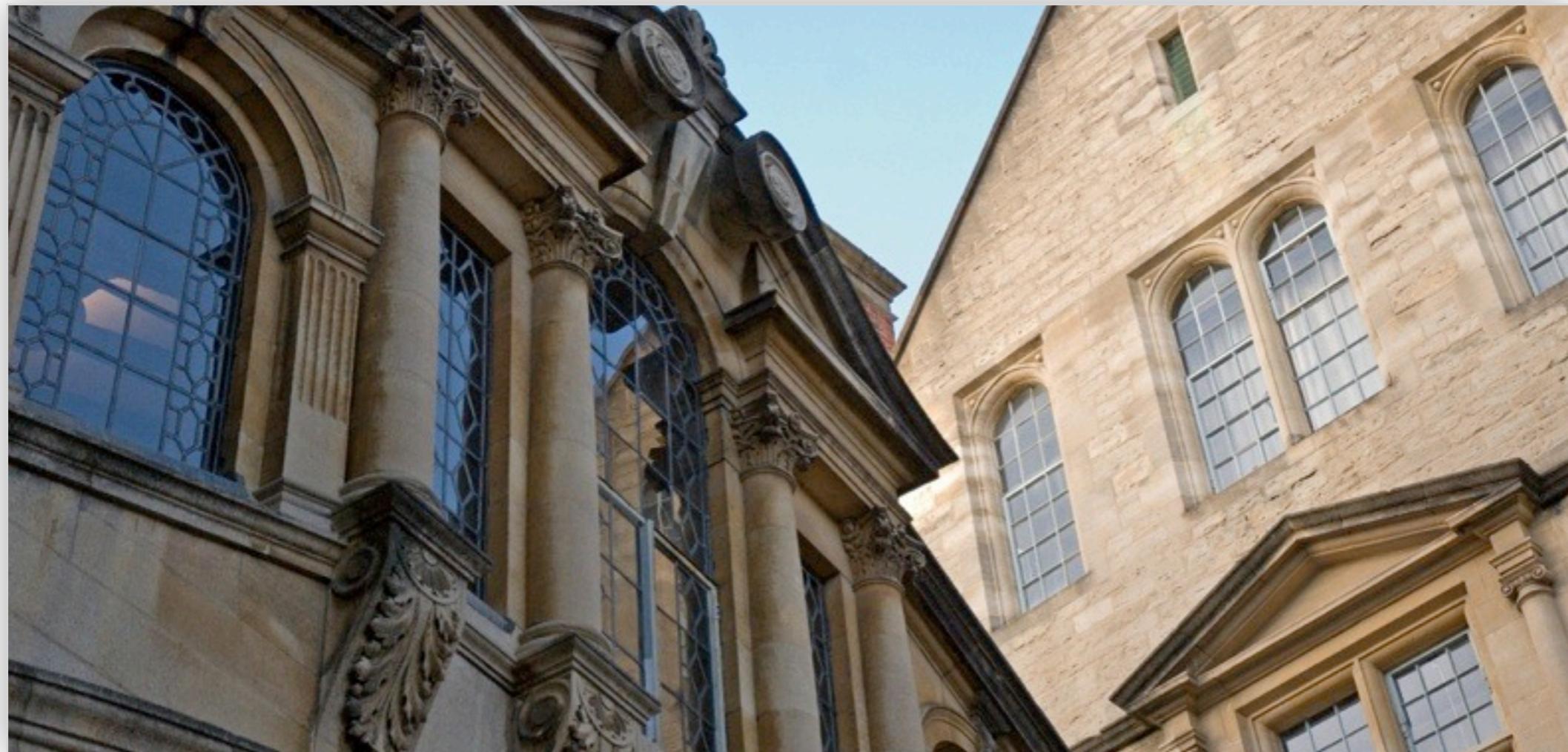
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Oxford at a glance



UNIVERSITY OF
OXFORD

- › In 2010–11, total University income was £919.6 million.
- › Total University expenditure in 2010–11 was £908.2 million.
- › Oxford consistently has the highest research income from external sponsors of any UK university.



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Oxford at a glance



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- › The University, including the colleges and Oxford University Press, is the largest employer in Oxford, supporting more than 18,000 jobs and injecting £750 million annually into the regional economy.
- › 41% of our academic staff are citizens of 95 foreign countries.



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Oxford at a glance



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- › There are over 21,000 students at Oxford, including 11,723 undergraduates and 9,327 postgraduates.
- › 42% of Oxford students are citizens of 143 foreign countries.
- › 95% of Oxford leavers are employed six months after graduating.



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Oxford at a glance



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- » Oxford's research activity involves more than 70 departments, the colleges, over 1,600 academic staff, more than 3,500 research and research support staff, and over 4,600 graduate research students.



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Oxford at a glance



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- › More than 70 departments.
- › 38 colleges and 6 permanent private halls.
- › 290 buildings totaling some 530,000 m².



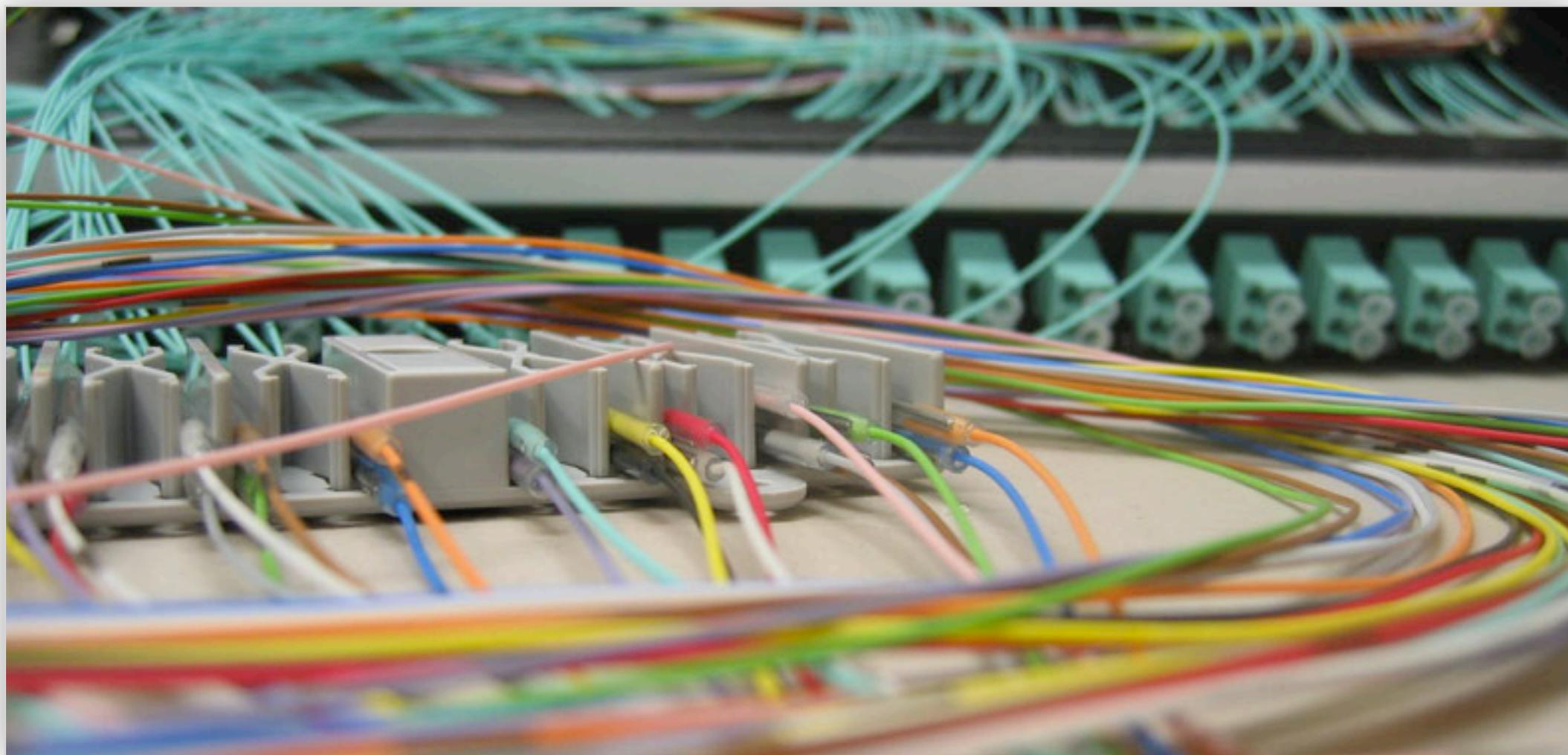
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Oxford at a glance



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- › City spanning campus network. Daily traffic more than 55 TB.
- › More 43,500 accounts and over 51,959 user Kerberos principals.
- › Weekly backup volume 65.9 million files or 88.3 TB, totalling 1.6 PB



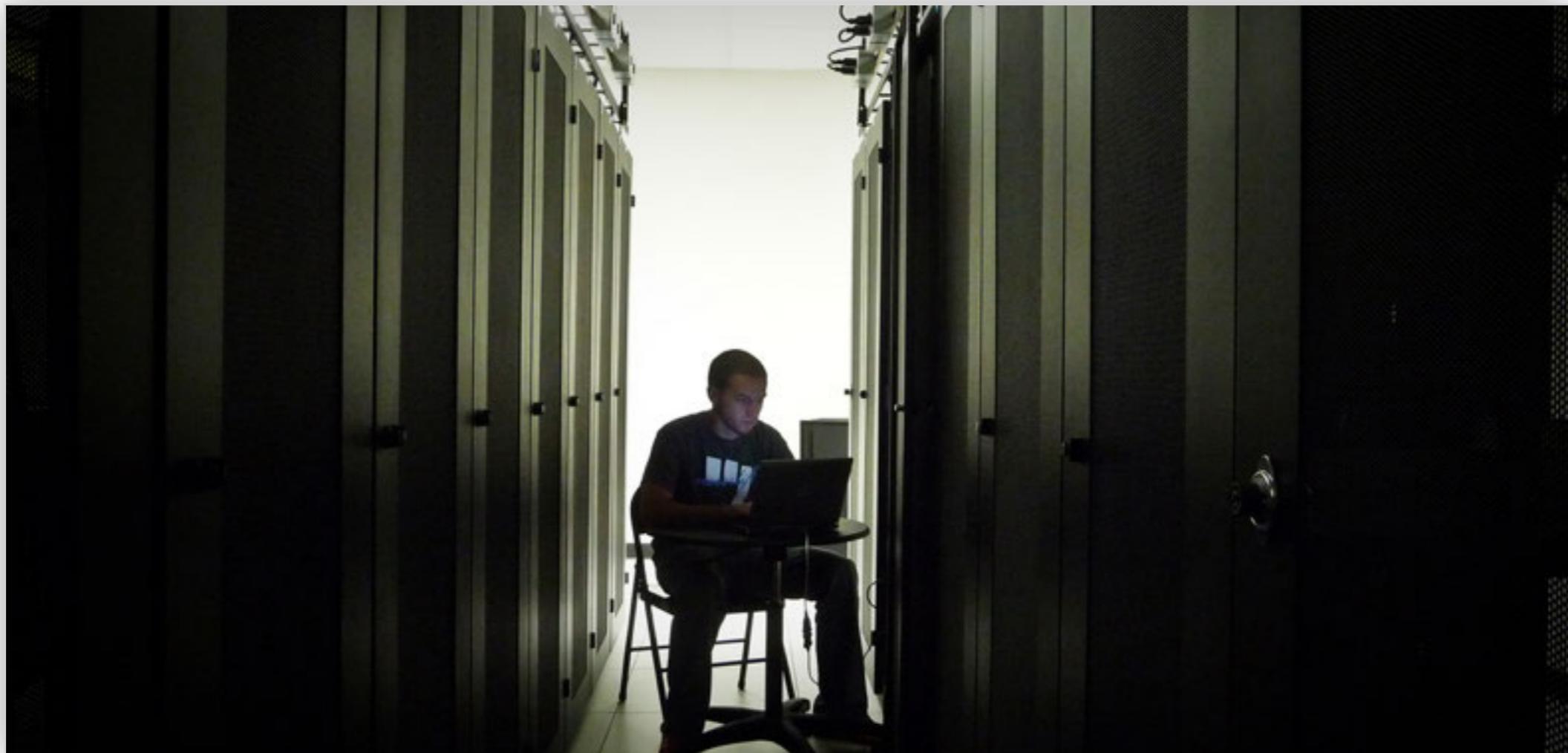
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Oxford at a glance



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- › IT Services provides services from the centre
- › Local IT support staff in every department or college
- › In total over 660 registered IT support staff



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Managed Mac Platform

Why a Managed Mac Platform?



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- › Expanding user base
- › Standardisation
- › Mass deployment
- › Self management
- › Resources
- › Compliance
- › Security

To enable Mac users to get on with their work without letting the technology get in their way.



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Project Goals



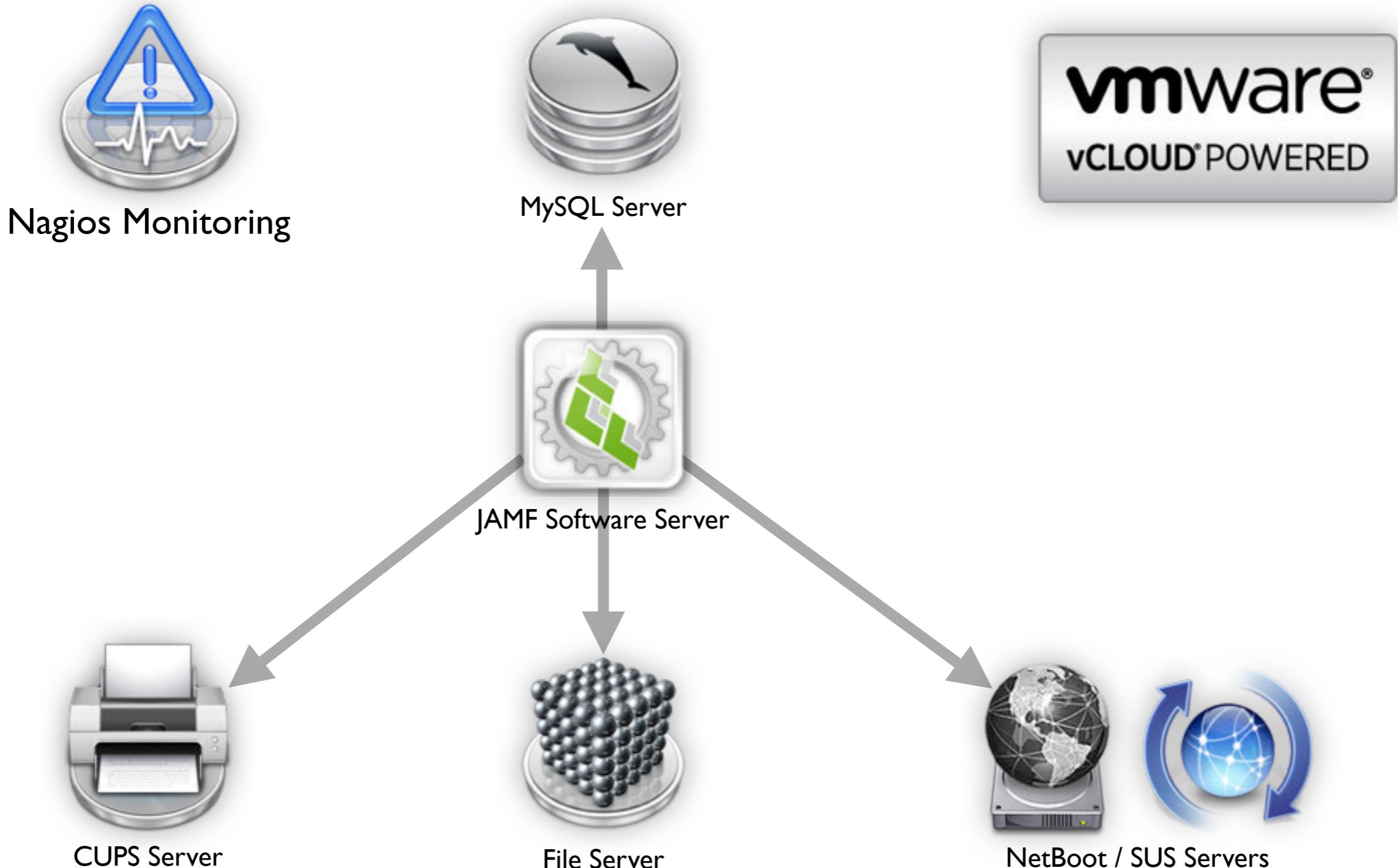
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- › Central deployment of OS X and third party applications
- › Flexible software configuration options
- › User initiated disaster recovery
- › Control over administrative access to the system
- › Central authorisation / Single Sign On (SSO) for services
- › Account lifecycle management
- › Weekly patching / updates of OS and installed applications
- › A resilient infrastructure that is not dependant on OS X Server

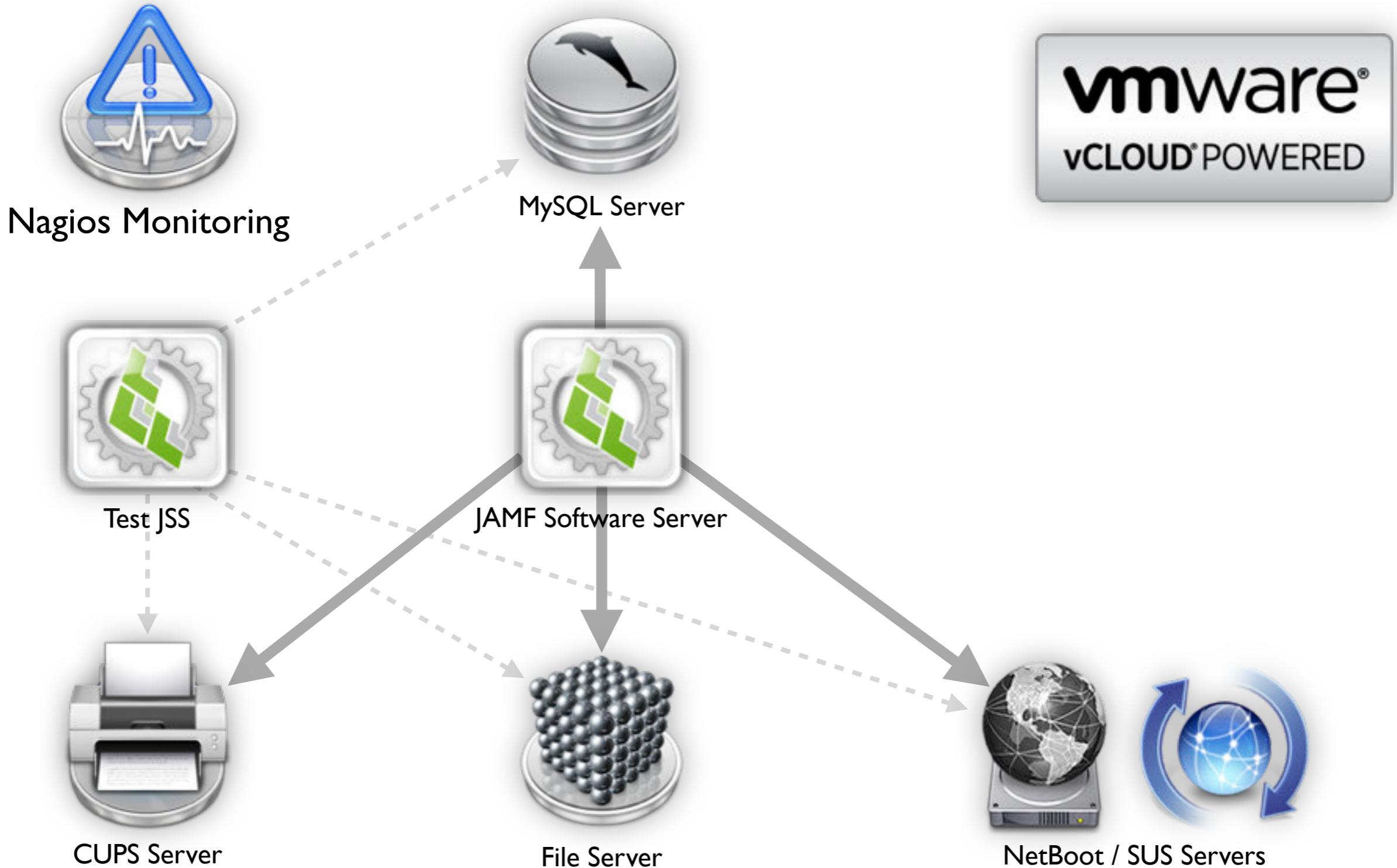


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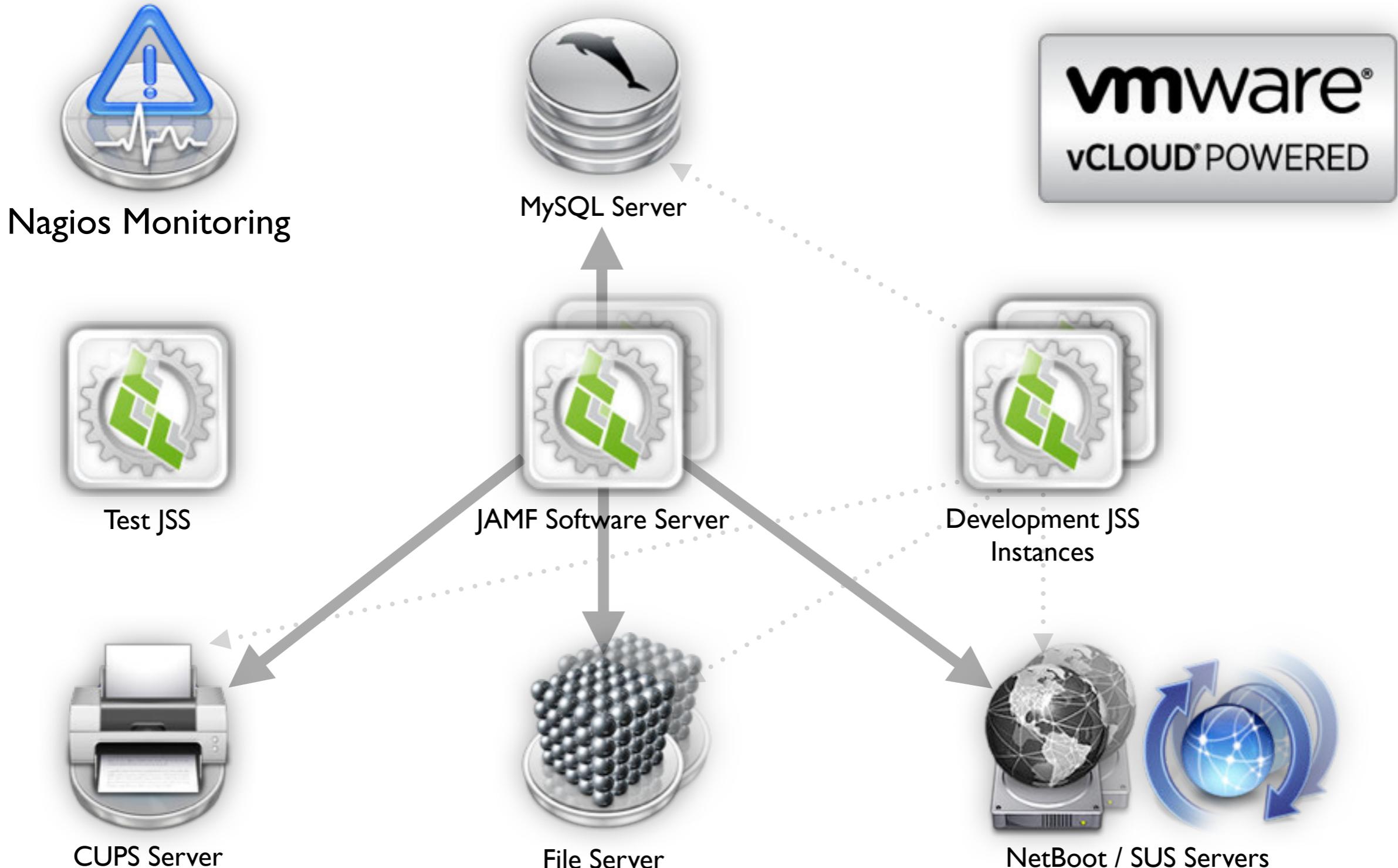
Aim: 100% virtualised back-end



Aim: 100% virtualised back-end



Aim: 100% virtualised back-end



Reposado + Magerita



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» Reposado <https://github.com/wdas/reposado>

- Apple Software Update Service clone
- Python + curl
- Open Source (BSD licensed)

» Magerita <https://github.com/jessepeterson/margarita>

- Web front-end for reposado
- Python (using the Flask micro-framework)

Margarita	Apply queued changes 0	<input checked="" type="checkbox"/> Hide commonly listed updates		
Software Update Product	Version	Post Date	direct branch	testing branch
iTunes Producer	2.6.0	2012-03-28	✓ Listed	✗ Unlisted
iTunes	10.6.1	2012-03-28	✓ Listed	✗ Unlisted
iTunes	10.6.1	2012-03-28	✓ Listed	✗ Unlisted
iTunes Producer Deprecated	2.5.1	2012-03-20	✗ Unlisted	✓ Listed
iTunes Deprecated	10.6	2012-03-07	✗ Unlisted	✓ Listed
iPhoto Update Deprecated	9.2.2	2012-03-07	✗ Unlisted	✗ Unlisted
iTunes Deprecated	10.6	2012-03-07	✗ Unlisted	✓ Listed

JAMF NetBoot/SUS Appliance



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Appliance Administration

Services Network Date/Time

SUS

NetBoot

AFP

SMB

SUS Settings

Base URL: Change Base URL

Store software updates on this SUS

SUS Control

Sync SUS

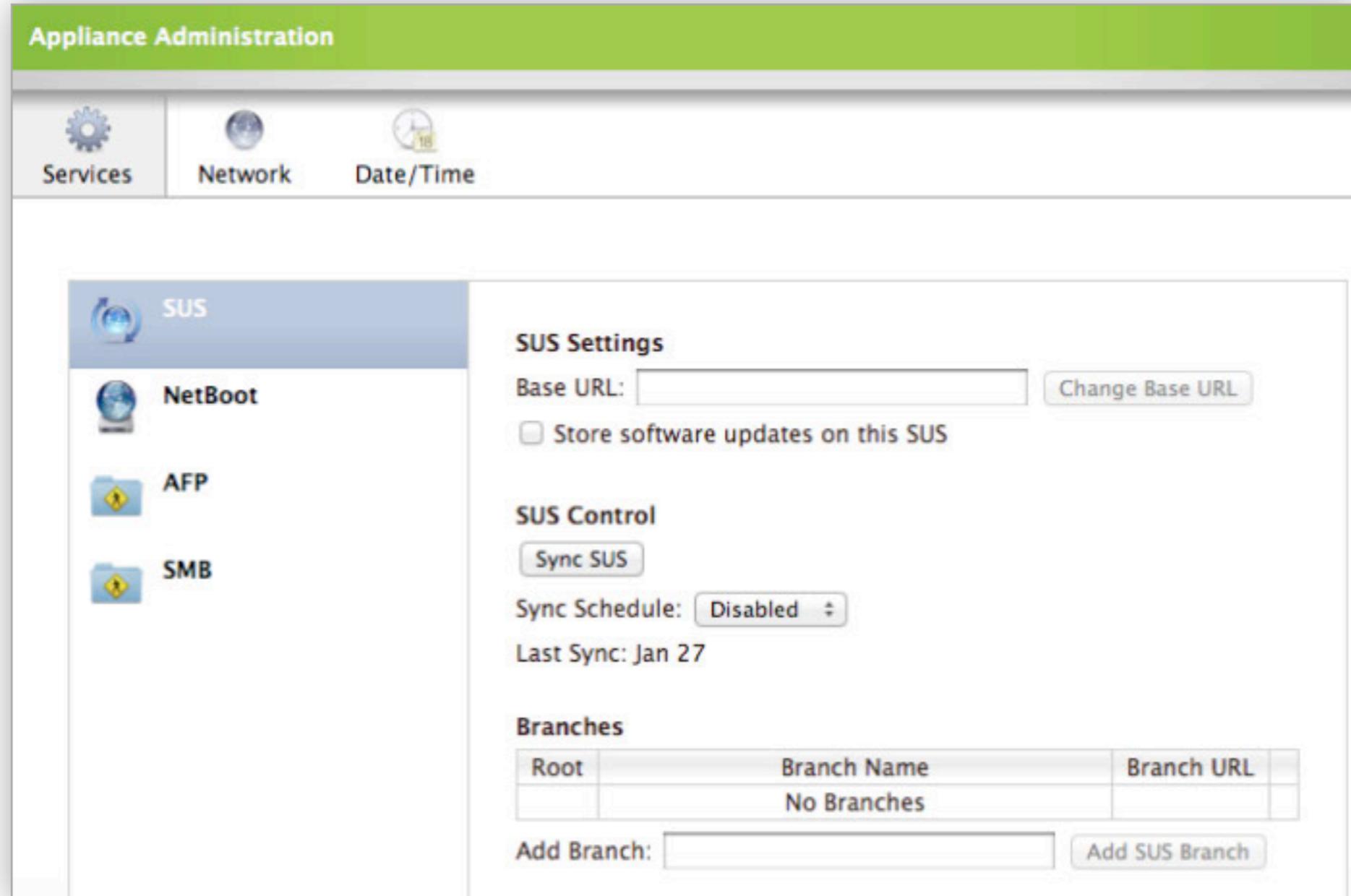
Sync Schedule:

Last Sync: Jan 27

Branches

Root	Branch Name	Branch URL
	No Branches	

Add Branch: Add SUS Branch

A screenshot of the JAMF NetBoot/SUS Appliance administration interface. The top navigation bar includes tabs for Services, Network, and Date/Time. On the left, there's a sidebar with icons for SUS, NetBoot, AFP, and SMB. The main content area is titled 'SUS Settings' and contains fields for 'Base URL' and a checkbox for 'Store software updates on this SUS'. Below this is the 'SUS Control' section with a 'Sync SUS' button and a dropdown for 'Sync Schedule' set to 'Disabled'. It also shows the last sync date as 'Jan 27'. The 'Branches' section features a table with one row labeled 'No Branches' and buttons for 'Add Branch' and 'Add SUS Branch'.

The appliance is basically Reposado, ISC DHCP, Netatalk, Samba with a PHP based user interface initiated by JAMF

JAMF NetBoot/SUS Appliance



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Manage packages for branch: test

Change to branch: test

Select All Clear All Filter packages by:

	Name	Version	
<input type="checkbox"/>	27-inch iMac Display Update	1.0	2010-02-01
<input type="checkbox"/>	27-inch iMac EFI Firmware Update	1.0	2010-04-14
<input type="checkbox"/>	27-inch iMac Graphics Firmware Update	1.0	2009-12-21
<input type="checkbox"/>	27-inch iMac SMC Firmware Update	1.0	2010-04-28
<input type="checkbox"/>	2009 Aluminum Keyboard Firmware Update	1.0	2011-08-23
<input type="checkbox"/>	AirPort Client Update 2009-001	1.0	2009-03-03
<input type="checkbox"/>	AirPort Client Update 2009-002	1.0	2009-12-08

SUS supports branches and one can cherry pick updates per branch or enable the auto pilot.



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JAMF NetBoot/SUS Appliance



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Appliance Administration

Services Network Date/Time

SUS

NetBoot

AFP

SMB

Upload New NetBoot Image

Upload NetBoot Image

Note:
Refresh this page after uploading a NetBoot image.
The NetBoot folder name can not contain spaces.

Choose NetBoot Image

Listen on these subnets:

Subnet Netmask Add Subnet

NetBoot Service Control

NetBoot Status: ●

Enable NetBoot

A screenshot of the JAMF NetBoot/SUS Appliance administration interface. The top navigation bar includes tabs for Services, Network, and Date/Time. On the left, a sidebar lists services: SUS, NetBoot (which is selected and highlighted in blue), AFP, and SMB. The main content area is titled 'Upload New NetBoot Image' with a 'Upload NetBoot Image' button. A note below it says 'Refresh this page after uploading a NetBoot image. The NetBoot folder name can not contain spaces.' It also includes a 'Choose NetBoot Image' dropdown menu, a 'Listen on these subnets:' section with 'Subnet' and 'Netmask' input fields and an 'Add Subnet' button, and a 'NetBoot Service Control' section showing 'NetBoot Status' with a red warning icon and an 'Enable NetBoot' button.

The NetBoot server supports just one NetBoot Image,
but multiple subnets.

JAMF NetBoot/SUS Appliance



- › Download it from JAMF Nation:
<https://jamfnation.jamfsoftware.com/viewProduct.html?id=180>
- › BSD licensed source available on github.com (since Feb 10, 2012)
<https://github.com/jamf/NetSUS>



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JSS with external DB Host



- › Separate critical services as much as possible
- › Move MySQL database off Tomcat server running the JSS
- › Database config is webapps/ROOT/WEB-INF/xml/Database.xml

```
<?xml version="1.0" encoding="ISO-8859-1"?>
< DataBase>
    < DataBaseType>mysql</ DataBaseType>
    < DataBaseDriver>com.mysql.jdbc.Driver</ DataBaseDriver>
    < ServerName>jssdb.mmp.local</ ServerName>
    < ServerPort>3306</ ServerPort>
    < DataBaseName>mmp_production</ DataBaseName>
    < DataBaseUser>mmp_production_jss</ DataBaseUser>
    < DataBasePassword>jamfsw03</ DataBasePassword>
    <!-- ... -->
</ DataBase>
```

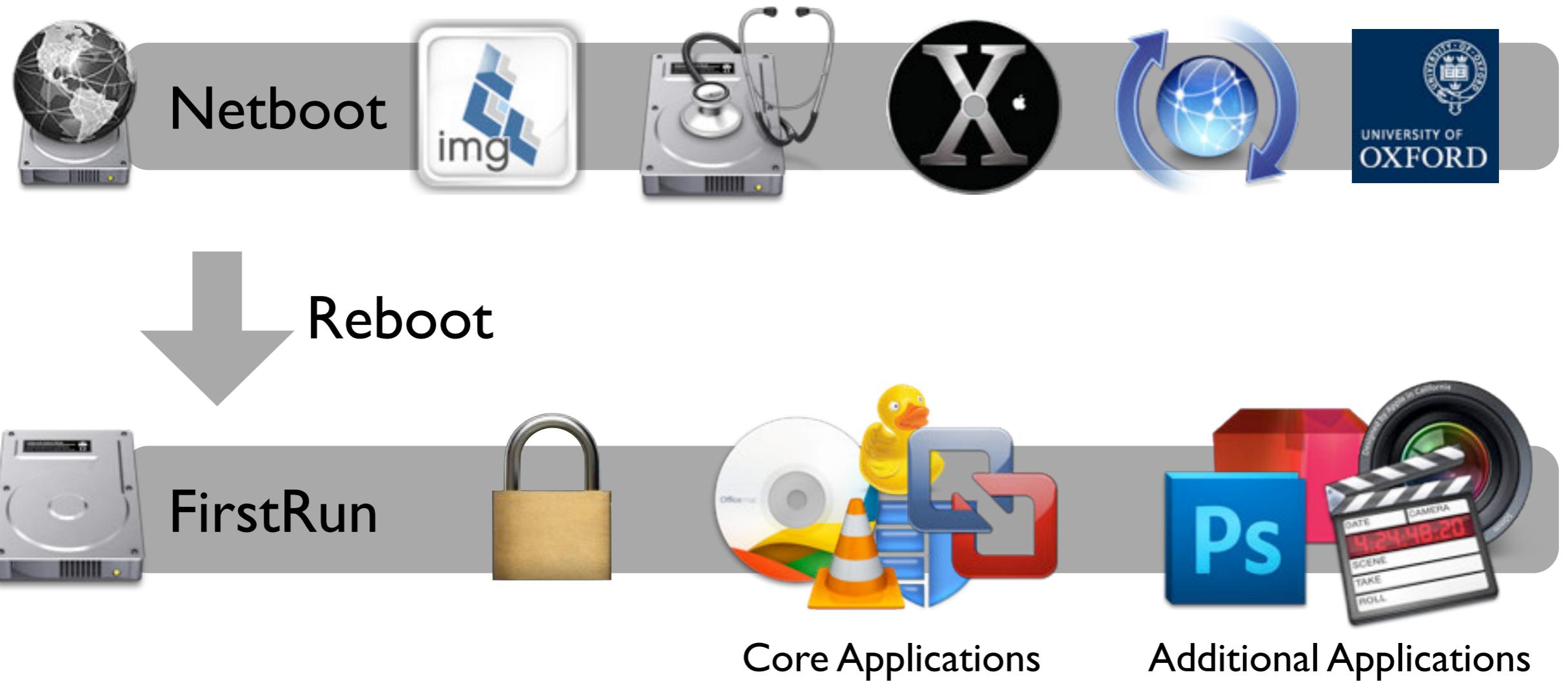
- › Please change the password on any JAMF Software Server installation

Network Systems Management Service
Managed Mac Platform



Deployment

System build



System build



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Casper Imaging 8.6

Refresh Custom Install

Macintosh HD

- buildPreInstall108.sh
- Erase Macintosh HD
- MacOSX-InstallESD_10.8....
- OxfordDesktop-and-Lock...
- buildPostInstall108.sh
- partitionDisk.pl
- Set Name to
- Update ByHost Files

Prepare FirstRun Script

- buildAtFirstRun108.sh
- Update Inventory

Reboot to Macintosh HD

Installation - /Volumes/Macintosh HD - disk0s2

Target Drive: Macintosh HD

Erase "Macintosh HD"

Computer Name: cherwell-mac-16

Install Configuration: MMP 10.8

Reboot to "Macintosh HD"

Use Distribution Point:

Automated Imaging Options

Update data on JSS

Automatically Image this Computer the next time Casper Imaging is launched

Cache a copy of every Package and Script for re-imaging

Skip the 60-120 Second Delay before Casper Imaging automatically images

Install



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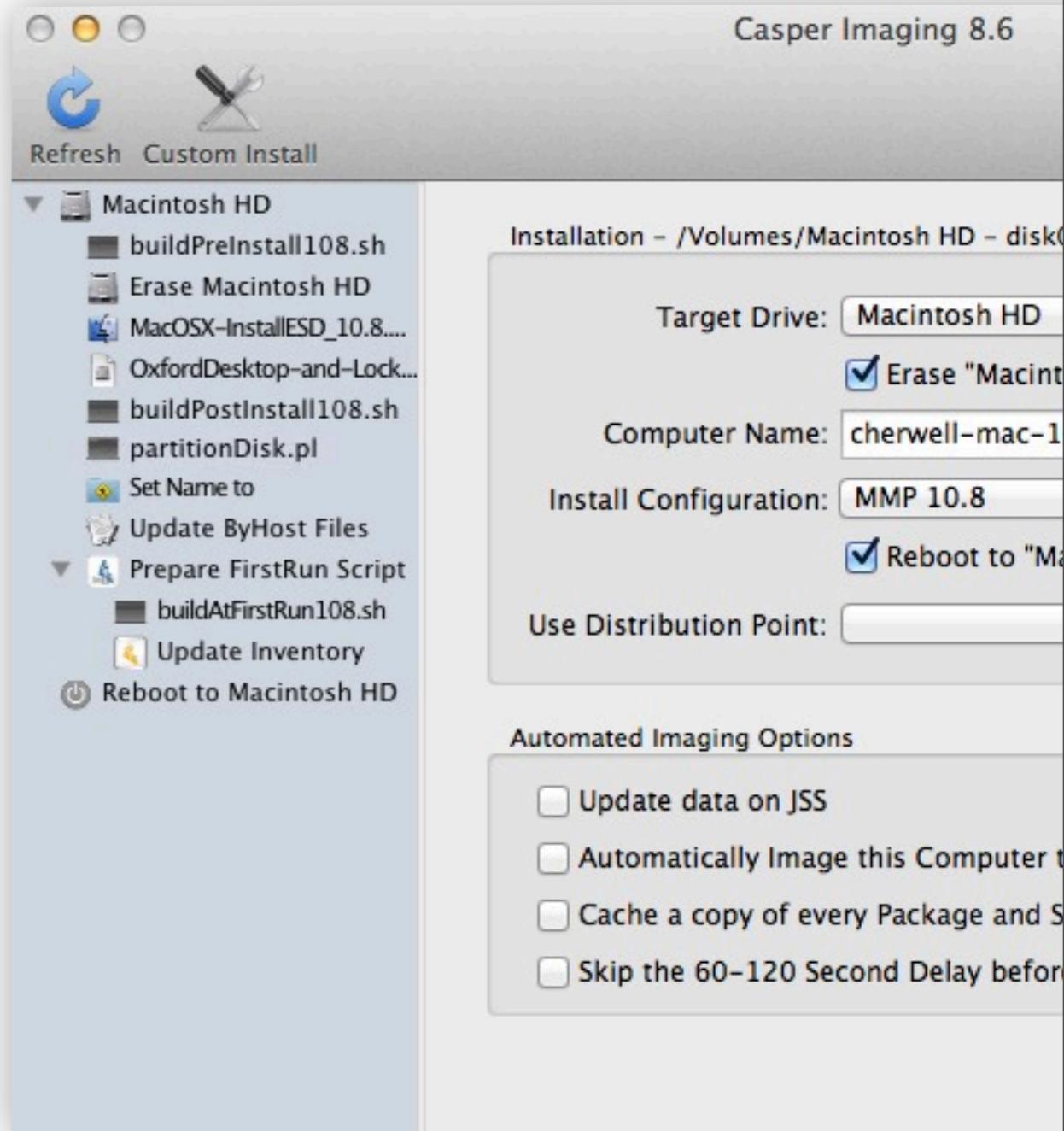
System build

NetBoot only for minimal install

- buildPreInstall.sh
- 10.6.3 Installer + 10.6.8 Combo OR
10.8.2 latest installer
- Localisation Fixes
- Oxford Theme (Background, lock screen, ...)
- buildPostInstall.sh
- partitionDisk.pl

Software deliver and Updates after first reboot into new system

- system lock at login window
- initial system settings
- software delivery
- system update
- initial inventory
- reboot



Disable input during imaging



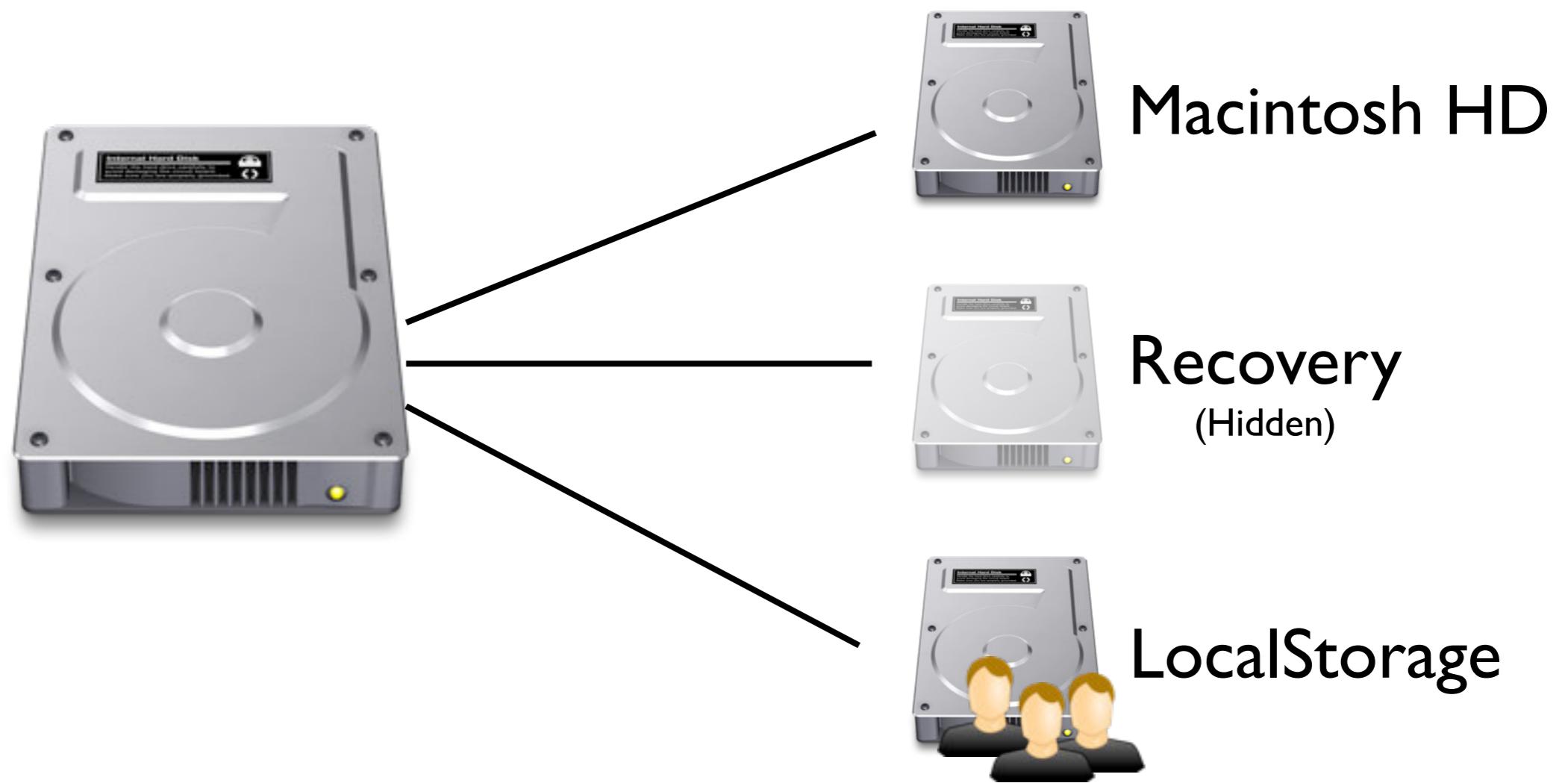
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- › JSS Autorun data initiates imaging without a delay
- › The buildPreInstall script locks the screen and brings Casper Imaging in front of the lock screen image

```
#!/bin/sh
case ${OSTYPE} in
    darwin10*)      # Snow Leopard - Mac OS X 10.6
        (open /System/Library/CoreServices/RemoteManagement/ ←
            AppleVNCServer.bundle/Contents/Support/LockScreen.app) &
        defaults write com.apple.dock autohide -bool true ; killall Dock
        ;;
    darwin12*)      # Mountain Lion - Mac OS X 10.8
        /System/Library/CoreServices/RemoteManagement/ ←
            AppleVNCServer.bundle/Contents/Support/LockScreen.app/ ←
            Contents/MacOS/LockScreen &
        ;;
esac
osascript -e 'tell app "Casper Imaging" to activate'
```

- › Customise your lock screen image in the NetBoot system by replacing the right files in your NetBoot image

How to handle user data?



How to handle user data?

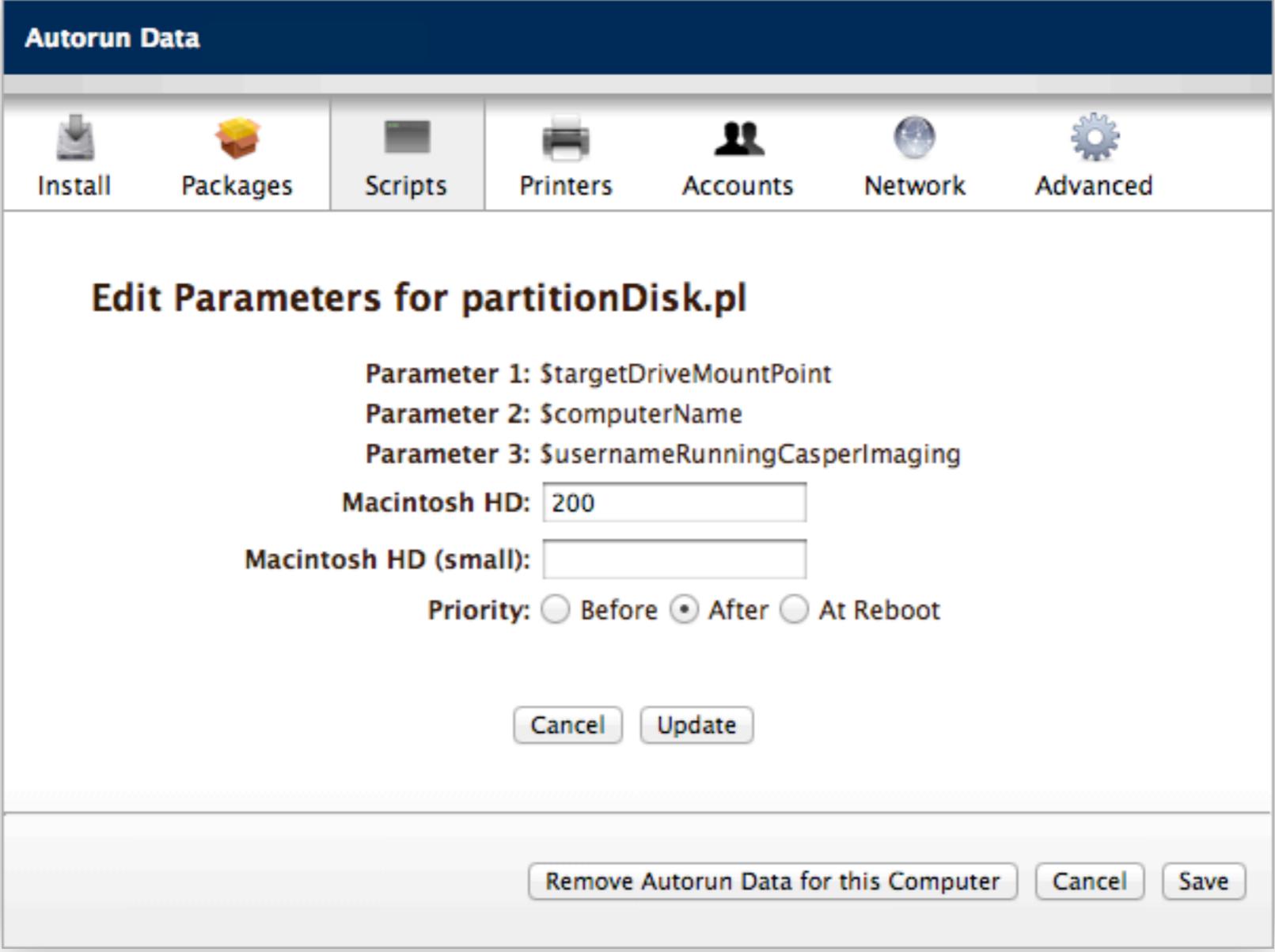
- › Casper Imaging ensures the existence of Macintosh HD and Restore partition
- › partitionDisk.pl handles LocalStorage partition (250+ lines Perl)
 - partition disk iff there is no LocalStorage partition
 - parse diskutil output to understand disk geometry
 - compute size of new LocalStorage partition
 - resize Macintosh HD according to parameterised algorithm
 - create and format LocalStorage and Recovery partition
 - verify changes and apply changes to disk
 - collect UUID of LocalStorage volume
 - create /etc/fstab entry to mount LocalStorage to /Users, i.e.:

```
#Added by re-partitioner
```

```
UUID=91DF0C8A-D5B2-3A07-8E21-7A6DA4B9A3FD /Users hfs rw 1 0
```



How to handle user data?



The screenshot shows a software interface titled "Autorun Data" with a dark blue header. Below the header is a navigation bar with seven items: "Install" (with a download icon), "Packages" (with a package icon), "Scripts" (with a script icon), "Printers" (with a printer icon), "Accounts" (with a user icon), "Network" (with a network icon), and "Advanced" (with a gear icon). The "Advanced" tab is selected.

The main content area is titled "Edit Parameters for partitionDisk.pl". It lists three parameters:

- Parameter 1: \$targetDriveMountPoint
- Parameter 2: \$computerName
- Parameter 3: \$usernameRunningCasperImaging

Below the parameters are two input fields:

- "Macintosh HD": A text input field containing "200".
- "Macintosh HD (small)": An empty text input field.

Below the input fields is a "Priority" section with three radio buttons:

- Before
- After
- At Reboot

At the bottom of the interface are two buttons: "Cancel" and "Update".

At the very bottom of the window, there are three buttons: "Remove Autorun Data for this Computer", "Cancel", and "Save".

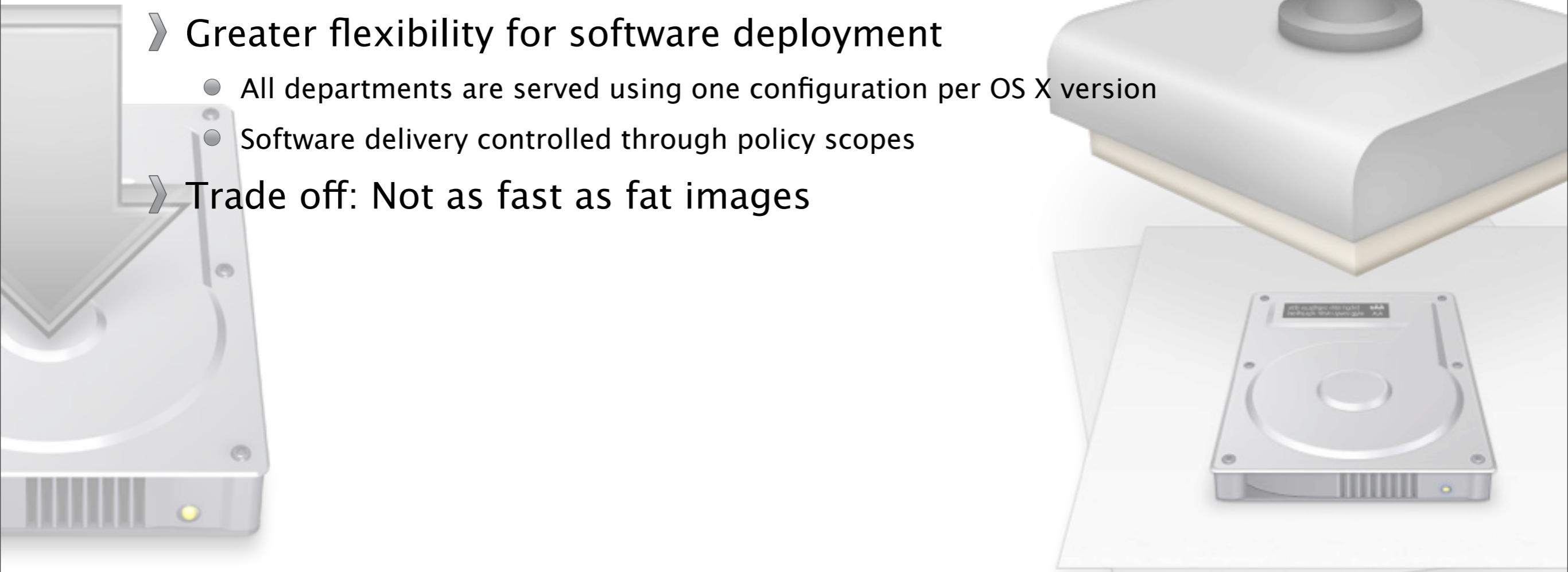
- Operations staff is able to configure per host a partition layout

Installation vs. Imaging



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- › No monolithic image – easier maintenance
- › Installing provides better hardware support (pre 10.7)
- › Faster turn around for updates
 - Casper Imaging configurations only need updating on OS X updates
 - All applications are deployed during FirstRun using policies
- › Greater flexibility for software deployment
 - All departments are served using one configuration per OS X version
 - Software delivery controlled through policy scopes
- › Trade off: Not as fast as fat images



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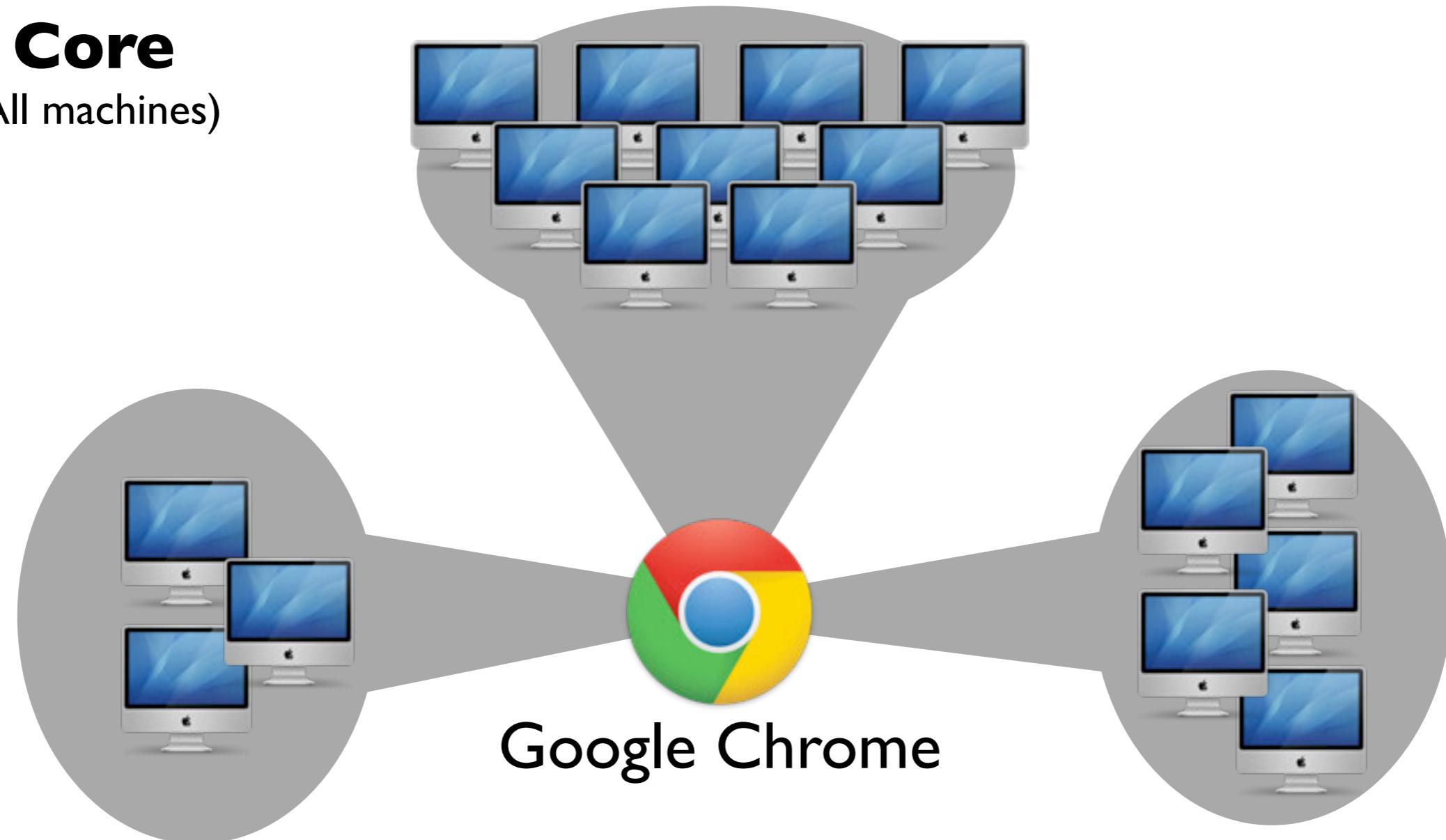
Application Deployment

Application classification



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Core
(All machines)



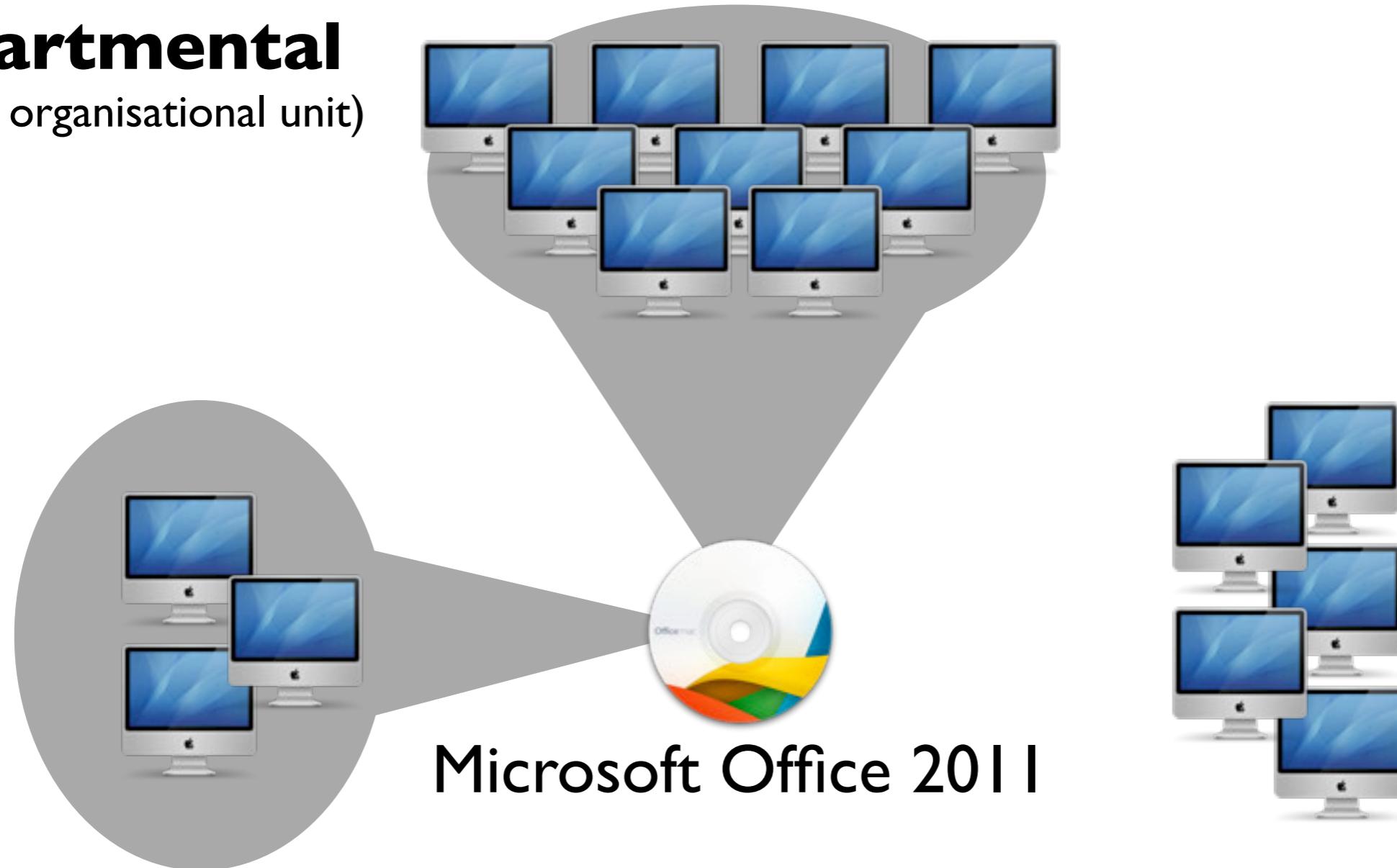
Google Chrome



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Application classification

Departmental
(All of an organisational unit)



Microsoft Office 2011

Application classification



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Departmental

(All of an organisational unit)

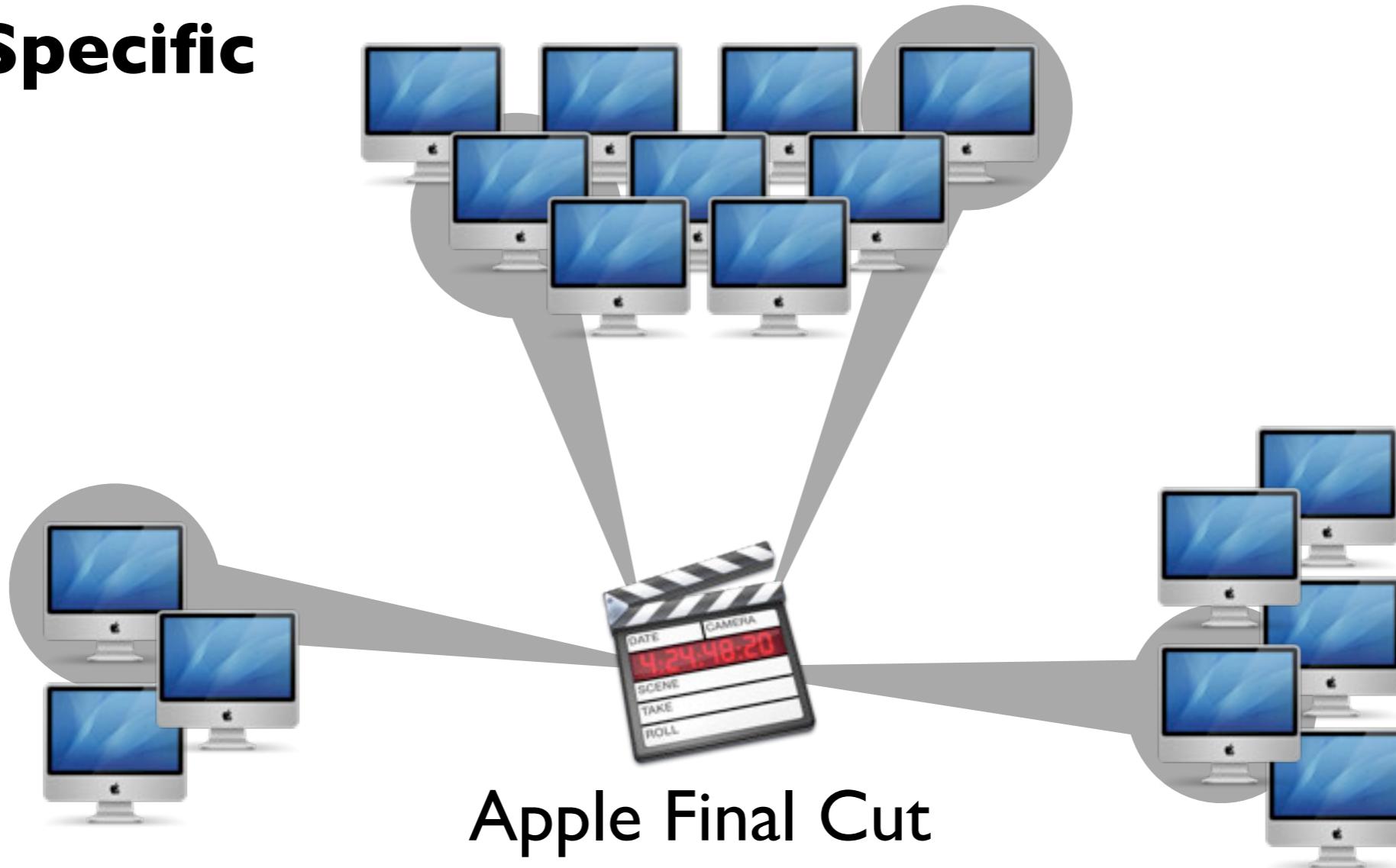


Microsoft Office 2008



Application classification

Host Specific



Application deployment



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Edit Policy: Firefox

General Scope Self Service Packages Scripts Printers Dock Accounts Reboot Advanced

Display and Execution Settings

Display Name: Firefox

Category: Browsers

Triggered By: The SoftwareInstall trigger

Execution Frequency: Once per computer

Cancel Save

A screenshot of a software deployment policy editor. The title bar says "Edit Policy: Firefox". Below it is a toolbar with icons for General, Scope, Self Service, Packages, Scripts, Printers, Dock, Accounts, Reboot, and Advanced. The "General" tab is selected. A main panel titled "Display and Execution Settings" contains fields for Display Name (Firefox), Category (Browsers), Triggered By (The SoftwareInstall trigger), and Execution Frequency (Once per computer). At the bottom right are "Cancel" and "Save" buttons.

We use 3 triggers for software management:
SoftwareInstall, SoftwareUpdate, and SoftwareUninstall

Application deployment



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Edit Policy: Firefox

General Scope Self Service Packages Scripts Printers Dock Accounts Reboot Advanced

Assign this Policy to these Computers

Assign to All Computers

Assign to Specific Computers

[Add Computer Groups](#) | [Add Individual Computers](#) | [Add Departments](#) | [Add Buildings](#)

[Computer Groups](#) | [Back to top](#)

Computer Group	Source	Remove
Installation & Patching on	JSS	Remove

[Cancel](#) [Save](#)

Please note the scope ‘Installation & Patching on’.

Application deployment



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Edit Policy: Firefox

General Scope Self Service Packages Scripts Printers Dock Accounts Reboot Advanced

Packages

Package Name	Action	FUT	FEU	Autorun	Remove
Firefox-Managed-Preferences_1.dmg	Install	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove
Firefox-ESR_10.0.2-1.0.0.dmg	Install	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove

Add Package

All Cached Packages

Install All Cached Packages

Software Update

Set Server Install All Software Updates

[Cancel](#) [Save](#)

Firefox is split into a simple drag & drop package for the application and a package disabling updates.

Application deployment



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Edit Policy: Firefox

General Scope Self Service Packages Scripts Printers Dock Accounts Reboot Advanced

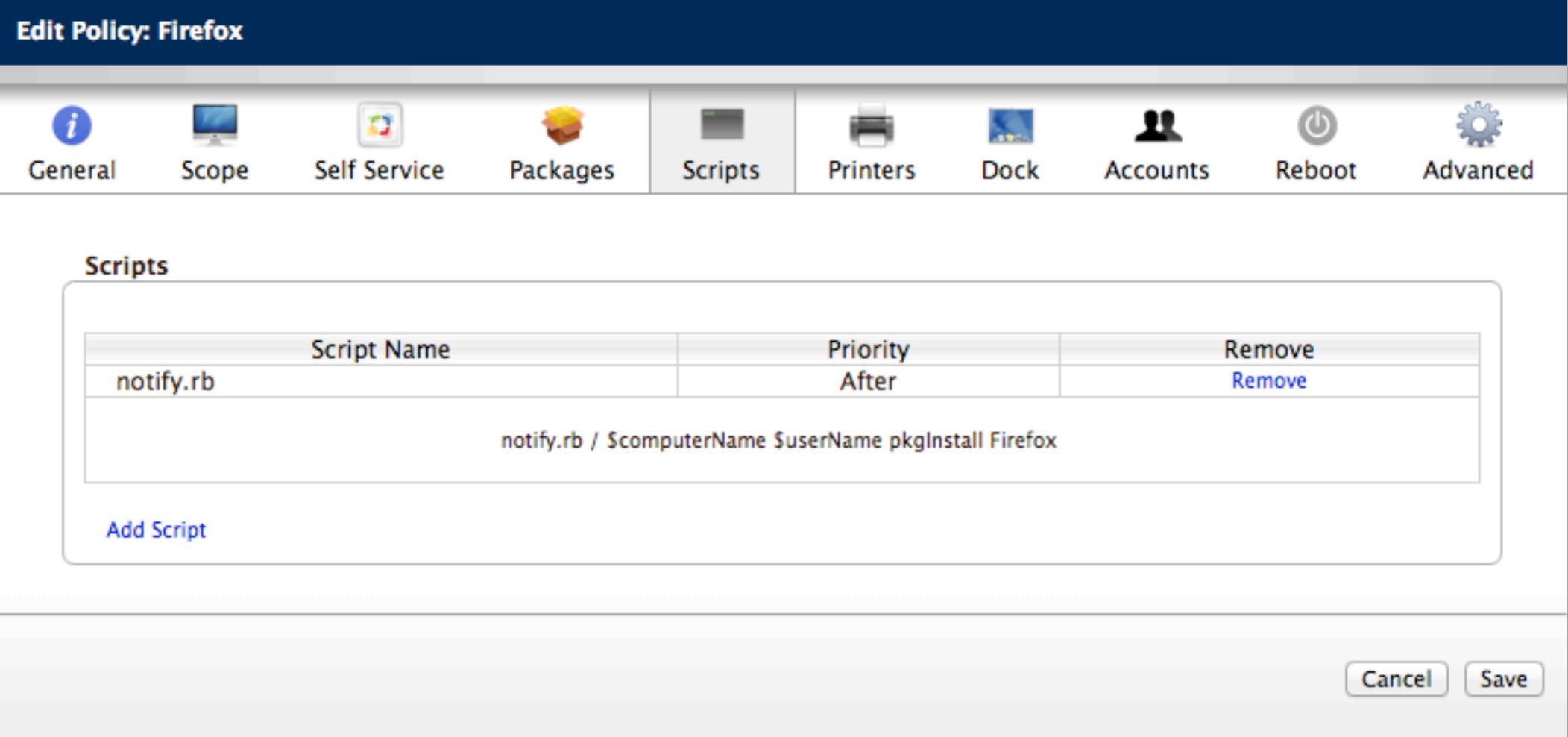
Scripts

Script Name	Priority	Remove
notify.rb	After	Remove

notify.rb / \$computerName \$userName pkgInstall Firefox

Add Script

Cancel Save



Our notification script keeps the user via Growl informed.

Application deployment



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Notifications are key to keep users informed about changes to deployed software & settings.



Application deployment



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- › ‘Installation & Patching’ extension attribute disables all software maintenance tasks
 - Core applications are scope against a SmartGroup only dependant on this value
- › Departmental software has SmartGroups per title
 - ‘Installation & Patching’
 - Location information (i.e. department name, building)
- › Per host software
 - Self Service applications are treated as core applications
- › How do we handle host specific software titles?



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Extension Attributes are Key



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Details for nsms-hester

i Computer Information

- Hardware**
MacBook Air (11-inch Mid 2012)
- Operating System**
Mac OS X 10.8.2
- Location**
oucs0089
- Purchasing**
- Extension Attributes**
- Storage**
2 Hard Drives
- Peripherals**
0 Peripherals
- Synced Mobile Devices**
0 Mobile Devices
- Computer Groups**
25 Computer Groups
- Licensed Software**
3 Licensed Software Titles
- Applications**
303 Applications
- Unix Applications**
0 Unix Applications

i Edit Computer Information

Computer Name: nsms-hester

Asset Tag: NSMS0815

Bar Code 1: 4711

Bar Code 2:

Adobe Acrobat Version: ✓ Choose...
10 (X)
9
9 and 10
None

Adobe CSS Edition:
Adobe CS5 Edition
Adobe CS5.5 Edition
Adobe CS6 Edition: Design Premium

Adobe Photoshop Elements Version: 9

Apple Aperture Version: 3

Apple Final Cut Version: Studio (2009)

Apple iLife Version: iLife '11

Apple iWork Serial Number: SERIAL-GOES-HERE

Apple iWork Version: iWork '09

Doceri Serial:

General MCX Settings: Off

HFS Host Name: mmp-hester-nsms

HFS Password: PASSWORD

MMPAdmin Password: c0cac@la

Reflection Serial Number:

Extension Attributes

-  **Storage**
2 Hard Drives
-  **Peripherals**
0 Peripherals
-  **Synced Mobile Devices**
0 Mobile Devices
-  **Computer Groups**
25 Computer Groups
-  **Licensed Software**
3 Licensed Software Titles
-  **Applications**
303 Applications
-  **Unix Applications**
0 Unix Applications
-  **Fonts**
0 Fonts
-  **Plug-ins**
1570 Plug-ins
-  **Certificates**
12 Certificates
-  **Management History**
0 pending, 0 failed
-  **Package Receipts**
296 Package Receipts
-  **Software Updates**
0 Software Updates
-  **Local User Accounts**
74 Accounts

None

Adobe CS6 Edition: Design Premium

Adobe Photoshop Elements Version: 9

Apple Aperture Version: 3

Apple Final Cut Version: Studio (2009)

Apple iLife Version: iLife '11

Apple iWork Serial Number: SERIAL-GOES-HERE

Apple iWork Version: iWork '09

Doceri Serial:

General MCX Settings: Off

HFS Host Name: mmp-hester-nsms

HFS Password: PASSWORD

MMPAdmin Password: c0cac@la

Reflection Serial Number:

Release: Unstable

Sassafras Keyserver: default

Software installation & patching: On

VMware Fusion Serial Number: SERIAL-GOES-HERE

VMware Fusion Version: 5.x

IP Address: 1.2.3.4

Manage this computer:

SSH Username: admin

SSH Password: *****

Verify SSH Password: *****

Cancel

Save

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Extension Attributes are Key



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Edit Smart Computer Group: VMware Fusion 4 Install

ComputerGroup Name:

Send Email Notification on Change:

	Field	Search Type	Criteria	-	+	
Computer Information						
	Software installation & patching	is not	Off	<input type="button" value="..."/>	<input type="button" value="-"/>	<input type="button" value="+"/>
and	VMware Fusion Version	is	4.x	<input type="button" value="..."/>	<input type="button" value="-"/>	<input type="button" value="+"/>
Location Information <input type="button" value="+"/>						
Hardware Information <input type="button" value="+"/>						
Purchasing Information <input type="button" value="+"/>						
Receipts Information <input type="button" value="+"/>						
Extension Attributes Information <input type="button" value="+"/>						
<input type="button" value="Cancel"/> <input type="button" value="Save"/>						

A SmartGroup groups all hosts with a VMware Fusion 4 license.

Extension Attributes are Key



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Edit Policy: VMware Fusion 4

General Scope Self Service Packages Scripts Printers Dock Accounts Reboot Advanced

Display and Execution Settings

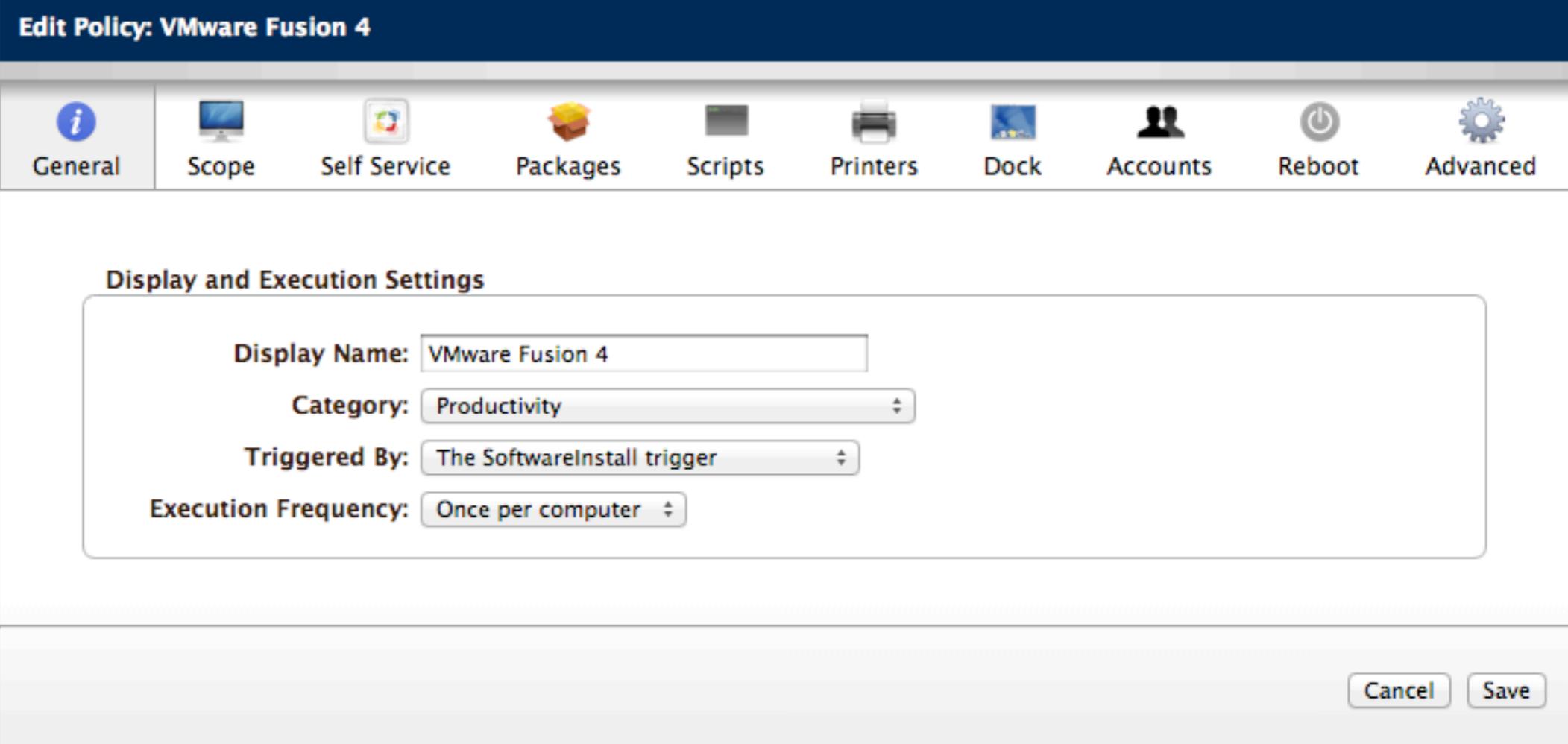
Display Name: VMware Fusion 4

Category: Productivity

Triggered By: The SoftwareInstall trigger

Execution Frequency: Once per computer

Cancel Save



The policy is triggered by the SoftwareInstall action
and runs only once per Computer.

Extension Attributes are Key



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Edit Policy: VMware Fusion 4

General Scope Self Service Packages Scripts Printers Dock Accounts Reboot Advanced

Assign this Policy to these Computers

Assign to All Computers

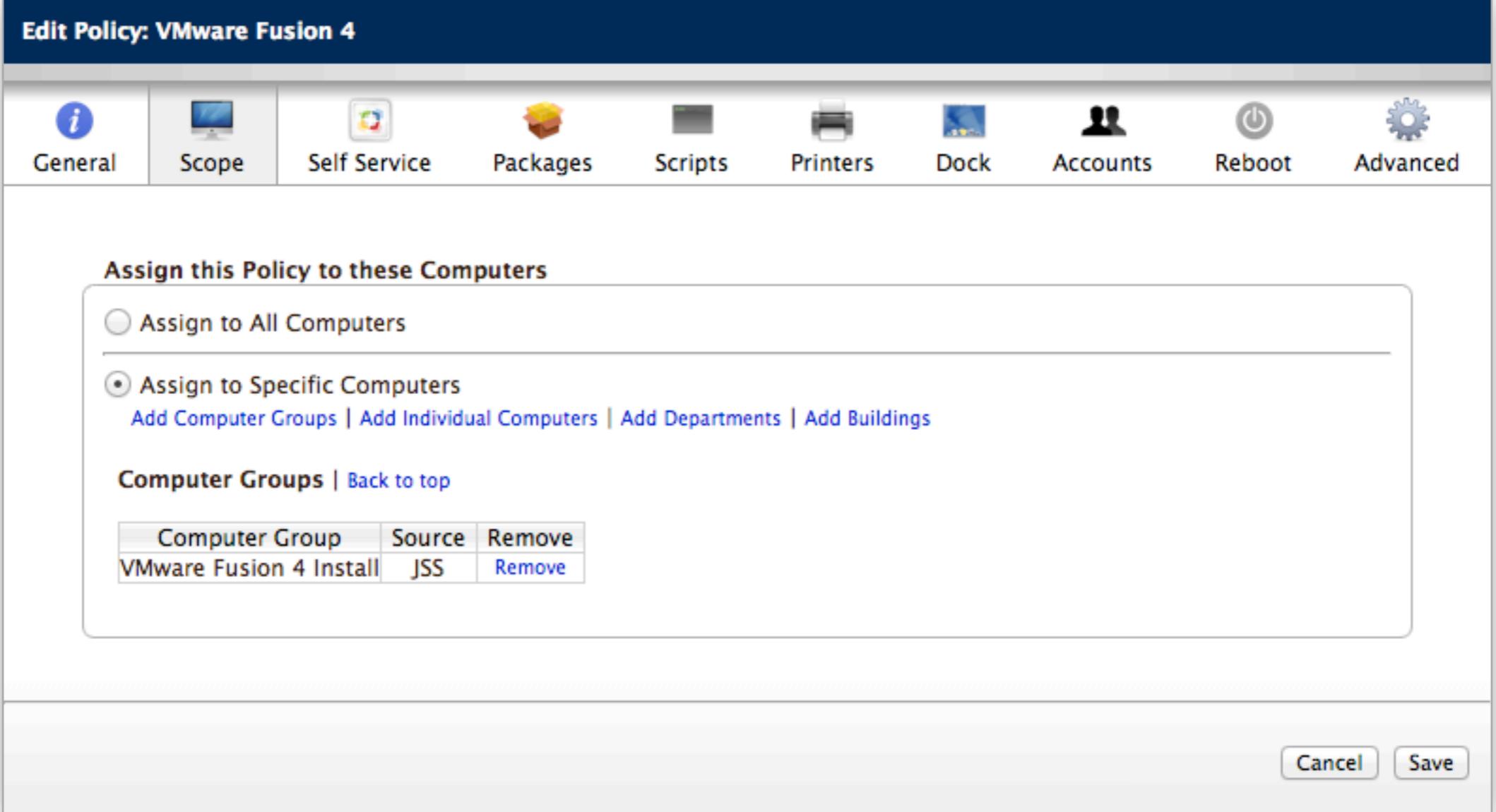
Assign to Specific Computers

[Add Computer Groups](#) | [Add Individual Computers](#) | [Add Departments](#) | [Add Buildings](#)

[Computer Groups](#) | [Back to top](#)

Computer Group	Source	Remove
VMware Fusion 4 Install	JSS	Remove

Cancel Save



The scope is the ‘VMware Fusion 4 Install’ SmartGroup.

Extension Attributes are Key



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Edit Policy: VMware Fusion 4

General Scope Self Service Packages Scripts Printers Dock Accounts Reboot Advanced

Scripts

Script Name	Priority	Remove
VMwareFusion4SetupAndSerial.sh	After	Remove
VMwareFusion4SetupAndSerial.sh / \$computerName \$userName		
notify.rb	After	Remove
notify.rb / \$computerName \$userName pkgInstall VMware Fusion 4		

[Add Script](#)

[Cancel](#) [Save](#)

To license the application we use a second script in addition to the already known notification system.

Extension Attributes are Key

- » The JSS API is used to retrieve the VMware Fusion 4/5 serial number stored in a host's extension attribute

```
#!/bin/bash
#
# Script to run the VMware Fusion 4/5 installer and register a license key
#
# Step 1: retrieve the host record from the JSS API
ETHER=$(ifconfig en0|grep ether|awk '{ print $2; }')

APIURL='$( /usr/bin/defaults read /Library/Preferences/ \
          com.jamfsoftware.jamf jss_url )'

APIUSER='jamfsoftware'
APIPASS='jamfswo3'
CMD="curl --silent --user ${APIUSER}:${APIPASS} \
         --request GET ${APIURL}/JSSResource/computers/macaddress/${ETHER//:/\:}."

HOSTINFO=$( ${CMD} )

# Step 2: parse the VMware version and serial#
SERIAL=${HOSTINFO##*VMware Fusion Serial Number<\/name>\<value\>}
SERIAL=${SERIAL%%\<\/value\>*}
VERSION=${HOSTINFO##*VMware Fusion Version<\/name>\<value\>}
VERSION=${VERSION%%\<\/value\>*}
```



Extension Attributes are Key

```
# Set up license key file for VMWare Fusion 4 only
if [ ${VERSION} = "4.x" ]; then
    echo ${SERIAL} > /Applications/VMware\ Fusion.app/Contents/ ←
        Library/License\ Key.txt
fi

# Step 3: run the VMware Fusion 4/5 set-up tool
if [ ! -x /Applications/VMware\ Fusion.app/Contents/Library/ ←
    Initialize\ VMware\ Fusion.tool ]; then
    echo "ERR: VMware Fusion tool is not executable."
    exit 1
fi
/Applications/VMware\ Fusion.app/Contents/Library/ ←
    Initialize\ VMware\ Fusion.tool set "" "" ${SERIAL}

# Read also:
# * VMware KB 1009244: Setting the license key from the command line
#   <http://kb.vmware.com/selfservice/microsites/search.do?cmd=displayKC&docType=kc&externalId=1009244&sliceId=1&docTypeID=DT\_KB\_1\_1>
```





Policy log: Cherwell-Mac-16 at Thursday, March 15 2012 at 6:24 PM

```
/usr/sbin/jamf is version 8.4
Executing Policy VMware Fusion 4...
Mounting afp://mmp:
Installing VMware_Fusion-4.0.2.dmg...
Closing package...
Running Script notify.rb...
Script Exit Code:0
Script Result:
Running Script VMwareFusion4SetupAndSerial.sh...
Script Exit Code:1
Script Result: *** Creating the host directory...
*** Copying files from the legacy host directory (before version 4rc)...
*** Setting file permissions...
*** Entering serial number unattended...
Unmounting file server...
```

[Flush History for this Policy/Computer](#)

Note: Clicking this button will make it appear that
this policy has never run on this computer.

[Cancel](#)

Please note: scripts are executed in the
alphanumeric order of the script names

Update Management

Version management



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10.6

10.7

Previous Current



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Version management



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10.7

10.8

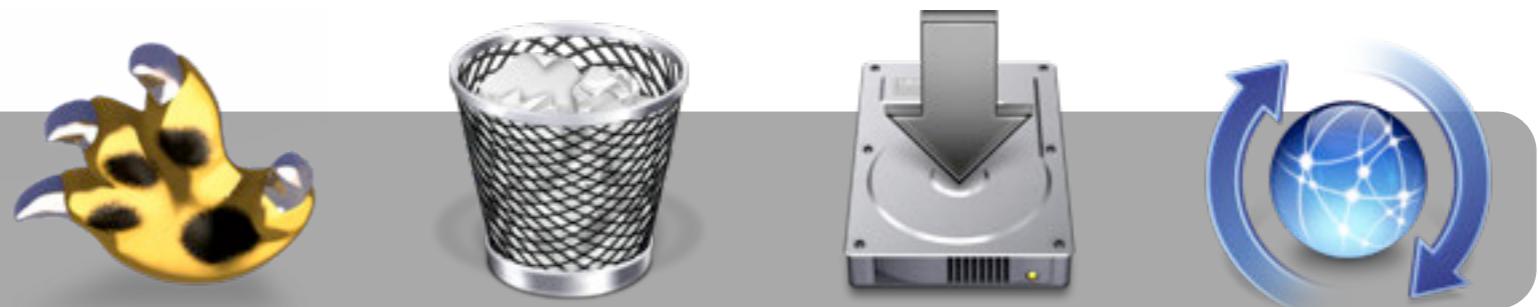
Previous Current



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Rolling Updates

Weekly Update



- Modify each machine at most once per week unless there is a critical security patch that needs to be applied
- Be as unintrusive as possible
- Weekly cycle
 - Two days of internal testing
 - Three days of deployment to departments
- Multiple releases similar to Debian GNU/Linux



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Release channels



Week 1	10.0.8	10.0.7
Week 2	10.0.8	10.0.7
Week 3	10.0.9β	10.0.8
Week 4	Unstable	Testing
		Stable



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Update deployment

Edit Policy: Firefox Update Testing

General Scope Self Service Packages Scripts Printers Dock Accounts Reboot Advanced

Display and Execution Settings

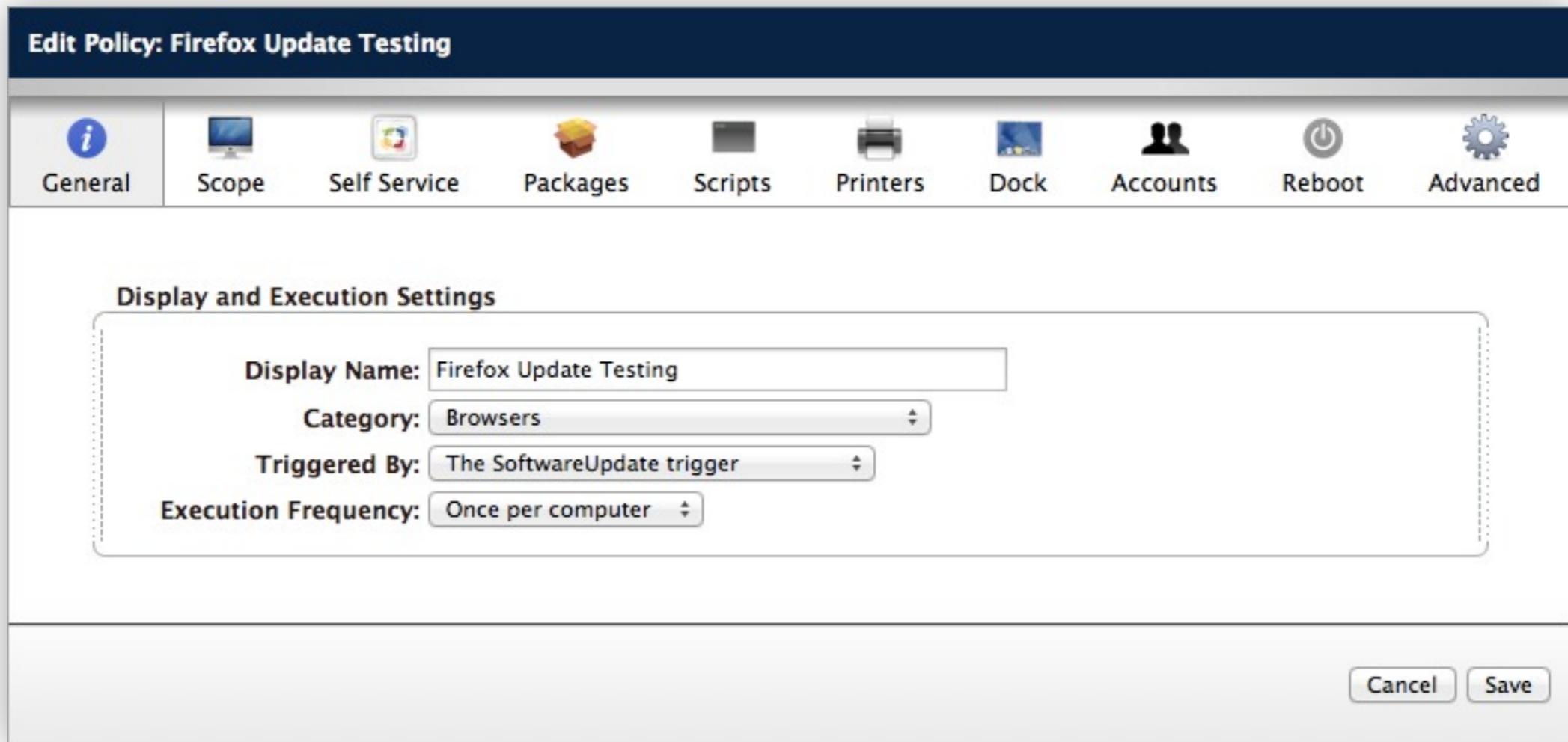
Display Name: Firefox Update Testing

Category: Browsers

Triggered By: The SoftwareUpdate trigger

Execution Frequency: Once per computer

Cancel Save



Update policies respond to the SoftwareUpdate action and are also set to run once per computer.



Update deployment

Edit Policy: Firefox Update Testing

General Scope Self Service Packages Scripts Printers Dock Accounts Reboot Advanced

Assign this Policy to these Computers

Assign to All Computers

Assign to Specific Computers

[Add Computer Groups](#) | [Add Individual Computers](#) | [Add Departments](#) | [Add Buildings](#)

[Computer Groups](#) | [Back to top](#)

Computer Group	Source	Remove
Firefox Update Testing	JSS	Remove

[Cancel](#) [Save](#)

For each software title there is a SmartGroup...

Update deployment



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Edit Smart Computer Group: Firefox Update Testing

Field	Search Type	Criteria	-	+
Computer Information				
Software installation & patching	is not	Off	...	- +
and	Release	is	Testing	...
Location Information				
Software Information				
Application Title	has	Firefox.app	-	+
and	Application Version	is not	10.0.7	- +
Purchasing Information				
				Cancel Save

...searching for all hosts with a previous version
of the application deployed.



Update deployment

Edit Policy: Firefox Update Testing

General Scope Self Service Packages Scripts Printers Dock Accounts Reboot Advanced

Packages

Package Name	Action	FUT	FEU	Autorun	Remove
Firefox_3.6.13.dmg	Uninstall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove
Firefox-ESR_10.0.7-1.dmg	Install	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove
Firefox_4.0-1.dmg	Uninstall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove
Firefox-ESR_10.0.2-1.0.0.dmg	Uninstall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove
Firefox-ESR_10.0.3-1.0.0.dmg	Uninstall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove
Firefox_7.0.2-1.dmg	Uninstall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove
Firefox-ESR_10.0.6-1.dmg	Uninstall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove
Firefox-ESR_10.0.5-1.dmg	Uninstall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove

Add Package

Cancel Save

The policy initially tries to remove any previous version before the new package is deployed.



Update deployment

Edit Policy: Firefox Update Testing

General Scope Self Service Packages Scripts Printers Dock Accounts Reboot Advanced

Scripts

Script Name	Priority	Remove
notify.rb	After	Remove

notify.rb / \$computerName \$userName pkgUpdate Firefox restart

Add Script

Cancel Save

Finally our notification system informs the user to restart the application.



Update deployment



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Details for nsms-hester

The screenshot shows a software interface for managing computer groups and updates. On the left, a sidebar lists categories: Computer Groups (25), Licensed Software (3 titles), Applications (303), Unix Applications (0), Fonts (0), Plug-ins (1570), Certificates (12), and Management History (0 pending, 0 failed). The main pane displays a list of computer groups, with 'Firefox Update Unstable' highlighted by a blue oval. Other items in the list include Active Directory Consumers, All Managed Clients, Apple iLife '11 Install, Apple iLife '11 Install Unstable, Apple iWork '09 Install, BSG Apps Unstable, Cloud Apps (all OS) Unstable, Cloud Apps 10.8 Unstable, Core Software (all OS) Unstable, Core Software 10.8 Unstable, Gimp Update Unstable, Google Chrome Update Unstable, Installation & Patching on, LibreOffice Update Unstable, and Microsoft Office 2011 Install.

Computer Groups
Active Directory Consumers
All Managed Clients
Apple iLife '11 Install
Apple iLife '11 Install Unstable
Apple iWork '09 Install
BSG Apps Unstable
Cloud Apps (all OS) Unstable
Cloud Apps 10.8 Unstable
Core Software (all OS) Unstable
Core Software 10.8 Unstable
Firefox Update Unstable
Gimp Update Unstable
Google Chrome Update Unstable
Installation & Patching on
LibreOffice Update Unstable
Microsoft Office 2011 Install

The computer groups in each host details give a very precise overview of what will be updated during the next update cycle.

Even more best practices

- › One installers and 3 updaters per Application
 - Do not forget to run a weekly system build
- › Policies should only be scoped against (one) SmartGroup
 - Do not use inventory information
 - Do not scope against individual computers
- › Static groups are unmaintainable
 - Use other inventory information, i.e. location or user information
 - In doubt consider creating another Extension Attribute
- › Keep it tidy
 - Have a naming convention for all object types: Packages, Policies, SmartGroups, etc.
- › Document everything
 - ChangeLogs for packages including version, date and packager
 - Workflows and processes for support and operations

» Rapid deployment of fully managed workstations

- Minimised maintenance of Casper Imaging configurations
- Broad software and hardware support

» Purely policy based approach

- Modular software delivery
- Granular configuration mechanisms
- Ongoing system and software patching

» User account and data management

- Separation of user data and centrally managed system
- Support for any directory service

» User friendly disaster recovery

- User initiated system restore
- User initiated data restore from central backup service



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Thank you!

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